## Author Index to Volume 52

Alberti, G., M. Casciola and R. Palombari, Potentiometric sensor for oxygen based on O2-	
H <sub>2</sub> mixed potential of a composite Pt-metal hydride electrode	52 (1992) 291
Anderson, H.U., Review of p-type doped perovskite materials for SOFC and other	
applications	52 (1992) 33
Arai, H., see K. Eguchi	52 (1992) 165
Badwal, S.P.S., Zirconia-based solid electrolytes: microstructure, stability and ionic	
conductivity	52 (1992) 23
Baek, H.D., see K.Z. Fung	52 (1992) 199
Ball, G.R., see E.D. Wachsman	52 (1992) 213
Barnett, S.A., see L.S. Wang	52 (1992) 261
Bates, J.L., L.A. Chick and W.J. Weber, Synthesis, air sintering, and properties of lan-	
thanum and yttrium chromites and manganites	52 (1992) 235
Bouet, L., Ph. Tailhades, A. Rousset, B. Domenichini and B. Gillot, Mixed valence states	
of iron and molybdenum ions in Mo <sub>x</sub> Fe <sub>3-x</sub> O <sub>4</sub> magnetites and related cation deficient	
ferrites	52 (1992) 285
Bredesen, R., see P. Kofstad	52 (1992) 69
Cai, H., R. Hu, T. Egami and G.C. Farrington, The effect of salt concentration on the local	
atomic structure and conductivity of PEO-based NiBr2 electrolytes	52 (1992) 333
Casciola, M., see G. Alberti	52 (1992) 291
Chick, L.A., see J.L. Bates	52 (1992) 235
Chou, W.H., see S.S. Zhang	52 (1992) 287
Chu, W.F., Thin- and thick-film solid ionic devices	52 (1992) 243
Cook, R.L., see A.F. Sammells	52 (1992) 111
Cordfunke, E.H.P., see J.A.M. van Roosmalen	52 (1992) 303
De Guire, M.R., M.J. Shingler and E. Dincer, Point defect analysis and microstructural	
effects in pure and donor-doped ceria	52 (1992) 155
De Jonghe, L.C., see T.W. Kueper	52 (1992) 251
Denecke, M.A., W. Gunsser, A.V. Privalov and I.V. Murin, NMR and XAS study on doped	,
LaF <sub>3</sub>	52 (1992) 327
Dincer, E., see M.R. De Guire	52 (1992) 155
Dokiya, M., see H. Yokokawa	52 (1992) 43
Domenichini, B., see L. Bouet	52 (1992) 285
	02 (1772) 200
Egami, T., see H. Cai	52 (1992) 333
Eguchi, K., T. Setoguchi, T. Inoue and H. Arai, Electrical properties of ceria-based oxides	
and their application to solid oxide fuel cells	52 (1992) 165
Elangovan, S., see A. Khandkar	52 (1992) 57

Familiation C.C. and H.C.;	62 (1002) 222
Farrington, G.C., see H. Cai	52 (1992) 333
Fujiki, Y., M. Watanabe, Y. Onoda, S. Yoshikado, T. Ohachi and I. Taniguchi, Flux growth	62 (1002) 245
of Mg- or Rb-doped $K_x[Ga_xGa_{8+x}Ti_{16-x}O_{56}]$ single crystals	52 (1992) 347
Fung, K.Z., H.D. Baek and A.V. Virkar, Thermodynamic and kinetic considerations for	
Bi <sub>2</sub> O <sub>3</sub> -based electrolytes	52 (1992) 199
Cillet B. and I. Barret	62 (1002) 296
Gillot, B., see L. Bouet	52 (1992) 285
Goodenough, J.B., A. Manthiram, M. Paranthaman and Y.S. Zhen, Fast oxide-ion con-	63 (1003) 106
duction in intergrowth structures	52 (1992) 105
Gunsser, W., see M.A. Denecke	52 (1992) 327
Han, H., G. Yu and W. Yi, A study on the influence of the mass transfer of oxygen in liquid	
steel on oxygen sensor response	52 (1992) 297
Hepola, J., Effect of mixing and particle size on calcination and sulphation of limestones	24 (1774) 471
in an isothermal flow reactor	52 (1992) 313
	,
Honegger, K., see A.R. Nicoll	52 (1992) 269
Hu, R., see H. Cai	52 (1992) 333
Inoue, T., see K. Eguchi	52 (1992) 165
Iwahara, H., Oxide-ionic and protonic conductors based on perovskite-type oxides and	02 (1272) 102
their possible applications	52 (1992) 99
their possible applications	32 (1772) 77
Jiang, N., see E.D. Wachsman	52 (1992) 213
Karavolis, S., see D.L. Maricle	52 (1992) 173
Kawada, T., see H. Yokokawa	52 (1992) 43
Khandkar, A., see M. Liu	52 (1992) 3
Khandkar, A., S. Elangovan and M. Liu, Materials considerations for application to solid-	32 (1772) 3
state electrochemical devices	62 (1002) 67
	52 (1992) 57
Klinger, R.E., Thin film deposition technologies, and structure/property relationships applied to colid attacking and others.	63 (1003) 340
plied to solid state ionic conductors	52 (1992) 249
Kofstad, P. and R. Bredesen, High temperature corrosion in SOFC environments	52 (1992) 69
Kueper, T.W., S.J. Visco and L.C. De Jonghe, Thin-film ceramic electrolytes deposited on	
porous and non-porous substrates by sol-gel techniques	52 (1992) 251
Kuo, C.K., see A. Tan	52 (1992) 357
Lawless, W.N., Solid-state generation of oxygen using ceramic honeycombs	52 (1992) 219
Liu, M. and A. Khandkar, Considerations in design and characterization of solid-state	32 (1992) 219
electrochemical systems	52 (1002) 2
Liu, M., see A. Khandkar	52 (1992) 3
	52 (1992) 57
Liu, Q., see B. Wang	52 (1992) 363
Liu, Q.G., see S.S. Zhang	52 (1992) 287
Lutz, H.D., A. Pfitzner and I. Solinas, Ionic conductivity of the heterogeneous system	
$(1-x)\text{Li}_2\text{M}^{\text{II}}\text{Cl}_{4-x}\text{Al}_2\text{O}_3 \text{ (M}^{\text{II}} = \text{Mg, Mn, Cd)}$	52 (1992) 353
MacDuff, R.C., see A.F. Sammells	52 (1992) 111
Manthiram, A., see J.B. Goodenough	52 (1992) 105
,,,,	04 (1774) 103

Maricle, D.L., T.E. Swarr and S. Karavolis, Enhanced ceria - a low-temperature SOFC	
electrolyte	52 (1992) 173
Mizusaki, J., Nonstoichiometry, diffusion, and electrical properties of perovskite-type ox-	
ide electrode materials	52 (1992) 79
Murin, I.V., see M.A. Denecke	52 (1992) 327
Mutsuddy, B.C., see D.S. Patil	52 (1992) 189
Nicholson, P.S., see A. Tan	52 (1992) 357
Nicoll, A.R., A. Salito and K. Honegger, The potential of plasma spraying for the depo-	
sition of coatings on SOFC components	52 (1992) 269
Norby, T., see O.J. Velle	52 (1992) 93
Ohachi, T., see Y. Fujiki	52 (1992) 347
Onoda, Y., see Y. Fujiki	52 (1992) 347
Osborne, J.J., see A.F. Sammells	52 (1992) 111
Pal, U.B., Electrochemical vapor deposition of solid oxide films	52 (1992) 227
Palombari, R., see G. Alberti	52 (1992) 291
Paranthaman, M., see J.B. Goodenough	52 (1992) 105
Patil, D.S., N. Venkatramani, V.K. Rohatgi and B.C. Mutsuddy, Investigation on some ce-	
ramic materials for electrochemical device applications	52 (1992) 189
Pfitzner, A., see H.D. Lutz	52 (1992) 353
Pound, B.G., The characterization of doped CeO <sub>2</sub> electrodes in solid oxide fuel cells	52 (1992) 183
Privalov, A.V., see M.A. Denecke	52 (1992) 327
Qiu, W., see B. Wang	52 (1992) 363
Qiu, X.P., see S.S. Zhang	52 (1992) 287
Rao, N., C.M. van den Bleek and J. Schoonman, Potentiometric $NO_x$ ( $x=1,2$ ) sensors with	
Ag+-β"-alumina as solid electrolyte and Ag metal as solid reference	52 (1992) 339
Riess, I., The possible use of mixed ionic electronic conductors instead of electrolytes in	62 (1002) 127
fuel cells	52 (1992) 127
Rohatgi, V.K., see D.S. Patil	52 (1992) 189
Rousset, A., see L. Bouet	52 (1992) 285
Sakai, N., see H. Yokokawa	52 (1992) 43
Salito, A., see A.R. Nicoll	52 (1992) 269
Sammells, A.F., R.L. Cook, J.H. White, J.J. Osborne and R.C. MacDuff, Rational selec-	
tion of advanced solid electrolytes for intermediate temperature fuel cells	52 (1992) 111
Schoonman, J., see N. Rao	52 (1992) 339
Setoguchi, T., see K. Eguchi	52 (1992) 165
Shingler, M.J., see M.R. De Guire	52 (1992) 155
Solinas, I., see H.D. Lutz	52 (1992) 353
Stevenson, D.A., see E.D. Wachsman	52 (1992) 213
Suitor, J.W., Fabrication/process development of oxygen separation systems	52 (1992) 277
Swarr, T.E., see D.L. Maricle	52 (1992) 173

Tailhades, Ph., see L. Bouet	52 (1992) 285
Tan, A., C.K. Kuo and P.S. Nicholson, Rb <sup>+</sup> -NH <sub>4</sub> <sup>+</sup> ion exchange kinetics of polycrystalline	
β"-Al <sub>2</sub> O <sub>3</sub>	52 (1992) 357
Taniguchi, I., see Y. Fujiki	52 (1992) 347
Thiele, E.S., see L.S. Wang	52 (1992) 261
Tuller, H.L., Mixed ionic-electronic conduction in a number of fluorite and pyrochlore	
compounds	52 (1992) 135
Van den Bleek, C.M., see N. Rao	52 (1992) 339
Van Roosmalen, J.A.M. and E.H.P. Cordfunke, Chemical reactivity and interdiffusion of	
(La, Sr)MnO <sub>3</sub> and (Zr, Y)O <sub>2</sub> , solid oxide fuel cell cathode and electrolyte materials	52 (1992) 303
Velle, O.J. and T. Norby, Imdepance spectroscopy studies of electrode-electrolyte systems	52 (1992) 93
Venkatramani, N., see D.S. Patil	52 (1992) 189
Virkar, A.V., see K.Z. Fung	52 (1992) 199
Visco, S.J., see T.W. Kueper	52 (1992) 251
Wachsman, E.D., G.R. Ball, N. Jiang and D.A. Stevenson, Structural and defect studies in	
solid oxide electrolytes	52 (1992) 213
Wang, B., W. Qiu and Q. Liu, The characteristics of different inserting stages of lithium	(,
ions into V <sub>6</sub> O <sub>13</sub> cathode	52 (1992) 363
Wang, L.S., E.S. Thiele and S.A. Barnett, Sputter deposition of yttria-stabilized zirconia	()
and silver cermet electrodes for SOFC applications	52 (1992) 261
Watanabe, M., see Y. Fujiki	52 (1992) 347
Weber, W.J., see J.L. Bates	52 (1992) 235
Weppner, W., Tetragonal zirconia polycrystals - a high performance solid oxygen ion	
conductor	52 (1992) 15
White, J.H., see A.F. Sammells	52 (1992) 111
Worell, W.L., Electrical properties of mixed-conducting oxides having high oxygen-ion	
conductivity	52 (1992) 147
Xing, B.Q., see S.S. Zhang	52 (1992) 287
Yang, L.L., see S.S. Zhang	52 (1992) 287
Yi, W., see H. Han	52 (1992) 297
Yokokawa, H., N. Sakai, T. Kawada and M. Dokiya, Thermodynamic stabilities of per-	, , , , , , , , , , , , , , , , , , , ,
ovskite oxides for electrodes and other electrochemical materials	52 (1992) 43
Yoshikado, S., see Y. Fujiki	52 (1992) 347
Yu, G., see H. Han	52 (1992) 297
	()
Zhang, S.S., X.P. Qiu, W.H. Chou, Q.G. Liu, L.L. Yang and B.Q. Xing, Ferroin-based solid-	
state electrochromic display	52 (1992) 287
Zhen, Y.S., see J.B. Goodenough	52 (1992) 105

## Subject Index to Volume 52

18O tracer diffusion coefficients, 79

Activation energy for conduction, 111 Aging of zirconia, 23 Alkaline ionic conductor, 347 Anion conductors, 111

β"-alumina ammonium, 357 rubidium, 357 silver, 339 Bi<sub>2</sub>O<sub>3</sub> electrolytes, 199 Bi<sub>2</sub>O<sub>3</sub> oxide-based electrolytes, 213 Bond energy, 111

Brower approximation, 155

Calcination, 313 Capacity, 363 Carburization, 69 Ceria, 155, 183 Ceria-alkaline earth systems, 165 Ceria-rare earth oxide systems, 165 Ceria stability, 173 Cermet deposition, 261 Charge carriers, 99, 135, 227, Charge transfer, 3 Charge transfer resistance, 93 Chemical sensors, 243 oxygen, 291 Chemical stability of perovskites, 43 Chromia formers, 69 Composite electrolyte, 353 Concentration cell, 99 Conduction mechanism, 79

Defect analysis, 127 Defect model, 135 Deficient ferrites, 285 Deposition technique, 243 Diffusion resistance, 93

Electrochromic systems, 243
Electrochromism, 287
Electrode reactions at ceria interfaces, 165
Electrolytic domain boundary, 173
Electronic conduction, 147
Evaporation, 243
EVD growth of LaCrO<sub>3</sub> films, 227

ZrO<sub>2</sub> films, 227 EVD process, 227

Ferroin, 287 Flux growth, 347 FSZ conductivity, 189

Gibbs-Duhem integration, 199 Glycine nitrate synthesis, 235

Heat exchanger efficiency, 219 High temperature sensor, 297 Honeycomb structure, 219

Impedance spectroscopy, 3, 23, 57, 93, 183, Insertion, 363 Interdiffusion, 303 Interfacial polarization, 57 Interfacial resistance, 3 Intergrowth structure, 105 Intrachain and interchain correlation, 333 Ion cluster beam, 243 Ion exchange, 357 Ionic conductivity alkaline, 347 lithium, 353 one-dimensional, 347 oxide, 105 Irreversibilities, 57 Isothermal flow reactor, 313

Kinetic irreversibilities, 57

Lanthanum trifluoride, 327 Lattice free volume, 111 Limestones, 313 Liquid phase sintering, 235 Lithium battery, 363 Lithium cell, 287 Lithium chloride, 353 Lumped parameter cell, 57

Magnetron sputtering, 261
Metallic interconnect, 69
Minority charge carriers in TZP, 15
Mixed conduction, 155
Mixed conductors
transition regions, 155

calculations, 43

Oxide-ion conduction, 105 Oxide-ion diffusion, 79 Oxygen sensor, 297

Mixed-ionic conductors, 99

Mixed valence conductors, 79

Mo-substituted magnetites, 285

Multicomponent chemical equilibria

Mixed potential, 291

Mixed ion-electron conductors, 99, 127, 135, 147

Pair distribution function (PDF) analysis, 333 Perovskites, 33 Phase stability, 213 Phase transformation, 199 Plasma spraying, 269 Polymer electrolytes, 333 Potassium gallotitanogallate, 347 Proton conductors, 99, 111 PSZ conductivity, 189 Pulsed laser plasma, 243

Quality control of spray powders, 269

Rate limiting steps, 3

Semi-metallic conduction, 79 Silver-reference electrode, 339 SIMS, 79 SOFC, 303 Sol-gel technique, 251 Spectroscopy of electrolytes, 213 Spinels, 285

## Subject index

Stability energy, 43 Stability fields, 43 Sublattice ordering, 213 Sulphation, 313 Superionic conductors, 327

TEM of ZrO<sub>2</sub> films, 261
Tetragonal zirconia, 15, 23,
Thermal expansion coefficient, 33, 69
Thermodynamic model, 219
Thermodynamic stability, 199
ceria, 165
Thoria-ceria electrolytes, 135
Titanium hydride, 291
Tolerance factor, 43
Transition regions in mixed conductors, 155
TZP ceramics, 189

Ultra thin electrolyte films, 251

Vacuum plasma spraying, 269 Vanadium oxide cathode material, 363 Voltammetry, 287

Warburg impedance, 15 Work function, 15

X-ray absorption spectroscopy, 327

YSZ-titania, 147

Zirconia, 297 aging, 23 Zirconium phosphate, 291 ZrO<sub>2</sub> coating of ceria, 165

